



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,490	07/27/2001	Hung-Ju Lee	SNY-P4516	9213
24337	7590	06/13/2005	EXAMINER	
MILLER PATENT SERVICES 2500 DOCKERY LANE RALEIGH, NC 27606			AN, SHAWN S	
			ART UNIT	PAPER NUMBER
			2613	
DATE MAILED: 06/13/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/916,490	Applicant(s) LEE, HUNG-JU	
	Examiner Shawn S. An	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-16 and 32 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 17-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Restriction/Election

1. Applicants' election with traverse of Species I and II consisting of claims 1-15 and 29-32 as filed on 1/17/05 have been acknowledged.

Applicants' traversal has been found persuasive.

Therefore, claims 1-32 will be examined together.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-6 and 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu et al (6,904,094 B1).

Regarding claims 1, 4, and 29, Liu et al discloses the MPEG transcoder having drift compensation, and a method of computing a drift reduction block, comprising:

means for processing a block of DCT coefficients by dropping at least one coefficient in the block (Fig. 6, 618; col. 8, lines 1-15);

means for forming a dropped coefficient block containing the at least one coefficient (col. 8, lines 51-59);

an inverse quantizer (Fig. 3(a), 320) for inverse quantizing at least one coefficient to produce an inverse quantized dropped coefficient block; and

an inverse DCT (325) for inversely discrete cosine transforming the inverse quantized dropped coefficient block to produce the drift reduction block.

Regarding claims 2-3, 5-6, and 30-31, Liu et al discloses dropping a plurality of coefficients in the block containing high frequency coefficients.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al (6,904,094 B1) in view of Le Clerc (6,307,888 B1).

Regarding claim 7, Liu et al does not particularly disclose mapping a block of video coefficients to a corresponding block of coefficients in the drift reduction frame using a motion vector.

However, Le Clerc teaches mapping blocks by their associated motion vector (col. 6, lines 20-21).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a method of computing a drift reduction block as taught by Liu et al to incorporate the well known concept as taught by Le Clerc so as to map the block of video coefficients to the corresponding block of coefficients in the drift reduction frame using the motion vector as an efficient way to drift compensate the current frame, thereby at least estimating the noise level in a video sequence.

Regarding claim 8, Liu et al discloses performing DCT (370) to the block of coefficients in the drift reduction frame.

Regarding claim 9, Liu et al discloses performing Q (375) to the DCT transformed block of coefficients in the drift reduction frame.

6. Claims 17-18, 20-24, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morel (6,456,661 B1) in view of Le Clerc (6,307,888 B1).

Regarding claims 17 and 23, Morel discloses an MPEG transcoder and a method of drift compensating a current frame having a motion vector, comprising:
means for dropping pixels from a reference frame of video (Fig. 2, element DS);
a decoder for decoding the dropped pixels to form a drift reference frame (Fig. 2, Q inverse and IDCT); and
a drift compensator for compensating the block from the current frame using the block in the drift reference frame (Fig. 2, MC).

Morel does not particularly disclose mapping means for mapping a block of video from the current frame to a block in the drift reference frame.

However, Le Clerc teaches mapping blocks by their associated motion vector (col. 6, lines 20-21).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing an apparatus/method of drift compensating a current frame having a motion vector as taught by Morel to incorporate the well known concept as taught by Le Clerc so that a mapping means maps a block of video from the current frame to a block in the drift reference frame as an efficient way to drift compensate the current frame, thereby at least estimating the noise level in a video sequence.

Regarding claims 18 and 24, Morel discloses the current frame having a plurality of motion vectors, and the drift compensator compensating for each of the motion vectors (Fig. 2, see Motion Vectors to MC).

Furthermore, Le Clerc teaches the mapping as discussed above.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art to recognize the mapping being carried out for each of the motion vectors.

Regarding claims 20-21 and 26-27, the Examiner takes official notice that dropping a plurality of coefficients in the block containing high frequency coefficients (see Liu et al).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing an apparatus/method of drift compensating a current frame having a motion vector as taught by Morel to incorporate the official notice as an efficient way to drift compensate the current frame, thereby at least estimating the noise level in a video sequence.

Regarding claims 22 and 28, the Examiner takes official notice that adding a block of video from the current frame to the block in a reference frame in a motion compensation scheme is well known in the art.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing an apparatus/method of drift compensating a current frame having a motion vector as taught by Morel to incorporate the official notice so as to add a block of video from the current frame to the block in the drift reference frame as an efficient way to drift compensate the current frame, thereby at least estimating the noise level in a video sequence.

7. Claims 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morel and Le Clerc as applied to claims 17 and 23 above, and further in view of Liu et al (6,904,094 B1).

Regarding claims 19 and 25, the combination of Morel and Le Clerc does not particularly disclose:

means for forming a dropped coefficient block containing the at least one coefficient;

an inverse quantizer for inverse quantizing at least one coefficient to produce an inverse quantized dropped coefficient block; and

an inverse DCT for inversely discrete cosine transforming the inverse quantized dropped coefficient block to produce the drift reduction block.

However, Liu et al teaches a method of computing a drift reduction block, comprising:

means for processing a block of DCT coefficients by dropping at least one coefficient in the block (Fig. 6, 618; col. 8, lines 1-15);

means for forming a dropped coefficient block containing the at least one coefficient (col. 8, lines 51-59);

an inverse quantizer (Fig. 3(a), 320) for inverse quantizing at least one coefficient to produce an inverse quantized dropped coefficient block; and

an inverse DCT (325) for inversely discrete cosine transforming the inverse quantized dropped coefficient block to produce the drift reduction block.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing an apparatus/method of drift compensating a current frame having a motion vector as taught by Morel to incorporate the concepts as taught by Liu et al as an efficient way to drift compensate the current frame, thereby at least estimating the noise level in a video sequence.

Allowable Subject Matter

8. Claims 10-16 and 32 are allowed.

Claims 10-15 and 32 include novel features (all of the limitations combined as a whole, emphasized), wherein the art of records fail to anticipate or make obvious the novel features.

Claim 16 is allowed as having at least all of the claimed limitations as set forth in independent claim 10.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Shawn S An whose telephone number is 571-272-7324.

10. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2613

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SHAWN AN
PRIMARY EXAMINER

6/09/05